

## CASES FOR DIAGNOSIS

# Tumor on the Distal Phalanx of the Third Finger

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## Patient History

A 39-year-old woman with a history of hypothyroidism consulted for a mass in the fleshy part of the third finger on the left hand that had appeared 9 months previously. The lesion had slowly grown and, although initially asymptomatic, was now painful to touch. The patient did not recall any previous injury.

## Physical Examination

A flesh-colored, subcutaneous tumor with a firm, elastic consistency was observed on the palmar surface of the distal phalanx of the third finger on the left hand (Figure 1). The lesion extended toward the dorsolateral side, although the nail plate was intact.



Figure 1.

## Histopathology

The macroscopic examination revealed a yellowish-brown nodular mass, and histopathology showed a multinodular neoplasm that was partially surrounded by a fibrous capsule. The mass was composed of ovoid histiocytes with a vesicular nucleus, mixed with prominent multinucleated giant cells within a hyalinized fibrous stroma. Foam cells, siderophores, and mononuclear cells were also observed (Figures 2 and 3).

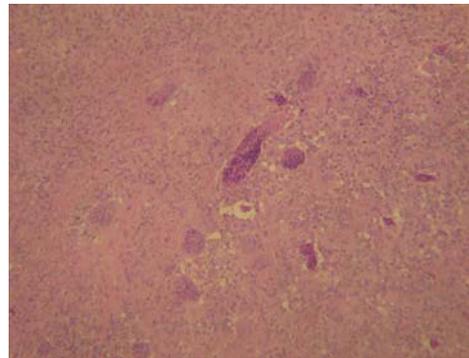


Figure 2.  
Hematoxylin-eosin,  $\times 100$ .

## Additional Examinations

Radiography ruled out an underlying bone condition and ultrasound showed a hypoechoic nodular area of diameter  $16 \times 7$  mm.

What is your diagnosis?

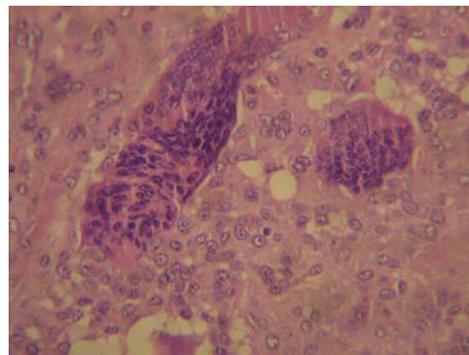


Figure 3.  
Hematoxylin-eosin,  $\times 400$ .

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## Diagnosis

Giant cell tumor of the tendon sheath

## Course and Treatment

The patient was referred to the trauma department for surgical treatment. The entire lesion was resected and no recurrence was observed after 1 year of follow-up.

## Comment

Giant cell tumor of the tendon sheath (GCTTS) is the second most common benign tumor of the hand, after ganglion cysts.<sup>1</sup> There are 2 clinical forms: diffuse (which affects large joints) and localized.<sup>2</sup> The localized form should be included by dermatologists in the differential diagnosis of tumors that appear on the fingers. The condition mainly affects young women and is rare among children and the elderly. Clinically, it is a solitary, asymptomatic, slow-growing mass with the color of normal skin and a firm consistency, and occurs on a finger near the interphalangeal joints. Tumors on the toes and multifocal disease on the same finger is rare.<sup>3</sup>

The pathology findings show a usually multinodular neoplasm formed by ovoid histiocytes with a vesicular nucleus, mixed with prominent multinucleated giant cells, foam cells, siderophores, and isolated mononuclear cells. Other common findings are severe hyalinization of the stroma, hemosiderin deposits, and cholesterol crystals.<sup>4</sup> The differential diagnosis should be performed with fibroma of the tendon sheath, which has an extremely hyalinized stroma and few or no multinucleated giant cells.<sup>4,5</sup>

The clinical differential diagnosis of GCTTS affecting the fingers includes myxoid cyst, epidermal cyst, rheumatoid nodule, metastasis, fibroma, and foreign body granuloma.

In the case of GCTTS, transillumination is negative and puncture will not obtain gelatinous material, allowing the condition to be differentiated from myxoid cyst.

Imaging studies are also essential for accurate diagnosis and treatment. Radiography will show whether there is erosion of the underlying cortical bone<sup>1</sup> and magnetic resonance imaging will allow clear identification of the tumor boundaries to facilitate definitive surgical treatment. However, the local recurrence rate is 15% to 25% and the presence of bone invasion is considered a sign of poor prognosis and greater local aggressiveness.<sup>1</sup>

Recent studies have shown that the multinucleated cells of GCTTS are formed by the fusion of various mononuclear cells of the stroma and not by amitotic cell division.

The origin of GCTTS continues to be debated. The prior history of injury reported by some patients would explain why some authors believe that GCTTS is a reactive inflammatory process rather than a true neoplasm.<sup>3</sup> However, the malignant transformation of GCTTS described in some cases does not support this hypothesis.<sup>6</sup>

## Conflicts of Interest

The authors declare no conflicts of interest.

## References

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